REMARKS

In the Final Office Action, claims 1-24 were rejected. Claims 1, 5, 7, 10, 12, 13 and 16 have been amended; claims 2-4, 6, 8-9, 11, 14-15, 17-24 are cancelled; and new claims 25-31 are added. Reconsideration and allowance of the pending claims is requested in view of the amendments and the following remarks.

Rejections in view of Cited Prior Art

Claims 17 and 21 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication 2002/0072670 to Chenal (hereinafter "Chenal reference"). Claims 1-5 and 7-8 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,896,657 to Willis (hereinafter "Willis 657"). Claim 12 was rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,685,637 to Rom (hereinafter "Rom"). Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Willis 657 in view of U.S. Patent 6,490,474 to Willis (hereinafter "Willis 474"). Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Willis 657 in view of U.S. Patent Publication 2005/0143777 to Sra (hereinafter "Sra"). Claims 10-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Willis 657 in view of U.S. Patent Publication 2002/0120192 to Nolte (hereinafter "Nolte"). Claims 13-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rom in view of Chenal. Claims 18-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chenal in view of EP 1 086 649 to Osadchy (hereinafter "Osadchy"). Claims 20 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chenal in view of U.S. Patent 5,487,391 to Panescu (hereinafter "Panescu"). Claims 23-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chenal in view of Rom.

a.   Claim 1 and claims dependent therefrom

Claim 1 as amended recites a method that comprises the steps of, inter alia, locating a series of points along a first boundary of an imaged anatomy, the series of points defined by a location of a probe inside a body; identifying a size and a shape of the

first boundary defined by the series of points physically located with the probe; comparing the size and the shape of the first boundary defined by the series of points with a second boundary defined by an acquired image data of the imaged anatomy; calculating if there is a match between the first boundary and the second boundary; and if there is a match, creating and registering a graphic representation of the location of the probe at each of the series of points for display with the acquired image data of the imaged anatomy.

None of the cited references disclose a method that comprises the steps of, *inter alia*, identifying a size and a shape of the first boundary defined by the series of points physically located with the probe; comparing the size and the shape of the first boundary defined by the series of points with a second boundary defined by an acquired image data of the imaged anatomy; calculating if there is a match between the first boundary and the second boundary; and if there is a match, creating and registering a graphic representation of the location of the probe at each of the series of points for display with the acquired image data of the imaged anatomy.

The Chenal reference discloses applying "predetermined standard shapes" that is fitted to landmarks identified in ultrasound image data, and "stretching" the shape to fit the image data, and then combining the borders of the predetermined shape with the image data. See Chenal reference, paragraphs 30-34. There is no discussion of the above-identified limitations recited in claim 1.

The Nolte reference merely discloses a system and method to calibrate a head of an ultrasound imaging system. See Abstract.

The Sra reference merely discloses a system and method that includes synchronizing acquistion of image data relatice to a tracked cardiac cycle. See Abstract.

The Penescu reference merely discloses a system to create an output that displays the derived propagation velocities in spatial relation to sensing electrodes. See Abstract.

A review of the other cited references fails to correct this deficiency. For at least this reason, Applicant believes that the recited subject matter is patentable over the cited references. Accordingly, reconsideration and allowance of claim 1 is respectfully requested.

Claims 5 and 25-27 depend from claim 1 and are believed allowable for the same reasons that claim 1 is believed allowable. Claims 5 and 25-27 may include patentable subject matter in addition to that recited in claim 1. For example, none of the cited references disclose the method as recited in claim 1, further comprising the steps of comparing a size and a shape of a boundary of a second feature defined by an additional series of points located with the probe relative to the size and shape of the second feature defined by an acquaired image data of the second feature; and comparing a spatial relation of the second feature relative to the first feature both defined by the points physically located with probe relative to a spatial relation of the second feature relative to the first feature defined by the acquired image data of the first and second features; and calculating if there is a match of the first and second features and spatial relation therebetween as defined by the series of points located with the probe relative to the first and second features and spatial relation therebetween as defined by the imaged data, as recited in claim 25. In another example, none of the cited references disclose the method as recited in claim 1, futher comprising the steps of acquiring a first heart vector data registered to at least one of the locations of the series of points of the probe; acquiring a second heart vector data registered to a location of the acquired image data illustrative of the first feature of the imaged anatomy; and registering the location of the first heart vector data relative to the second heart vector data so as to thereby register the representation of the probe at one or more of the series of points relative to the acquired image data of the first feature of the imaged anatomy, as recited in claim 26.

b.   Claim 7 and claims dependent therefrom

Claims 7 is amended in a similar manner to claim 1. Claim 7 recites a method that comprises the steps of, *inter alia*, identifying a size and a shape of the first boundary

defined by the series of points located with the probe; comparing the size and the shape of the first boundary defined by the series of points with a second boundary defined by an acquired image data of the feature of the imaged anatomy; calculating if there is a match between the first boundary and the second boundary; and if there is a match, creating and registering a display of an electrical property data acquired by the probe at one or more of the series of points for simultaneous illustration with the acquired image data of the imaged anatomy. For reasons similar to those recited with respect to claim 1, Applicant believes the above-described recited subject matter is not disclosed in, and is therefore is patentable over, the cited references. Accordingly, reconsideration and allowance of claim 7 is respectfully requested.

Claims 10 and 28-29 depend from claim 7 and are believed allowable for the same reasons that claim 7 is believed allowable. Claims 13, 16 and 28-29 may include patentable subject matter in addition to that recited in claim 1. For example, none of the cited references disclose the method of claim 7, further comprising the steps of comparing a spatial relation of the second feature relative to the first feature both defined by the points located with probe relative to a spatial relation of the second feature relative to the first feature defined by the image data of the first and second features; and calculating if there is a match of the first and second features and spatial relation therebetween as defined by the series of points physically located with the probe relative to the first and second features and spatial relation therebetween as defined by the acquired imaged data, wherein the step of creating and registering a display of an electrical property data acquired by the probe at one or more of the series of points for simultaneous illustration with the acquired image data of the feature of the imaged anatomy is performed if there is the match calculated according to the above step, as recited in claim 28. In another example, none of the cited references disclose acquiring a first heart vector data having a location registered relative to at least one of the locations of the series of points of the probe; acquiring a second heart vector data having a location registered relative to a location of the image data illustrative of the first feature of the imaged anatomy; and registering the location of the first heart vector data relative to the

location of the second heart vector data so as to thereby register the representation of the location of the probe at one or more of the series of points relative to the location of the image data of the first feature of the imaged anatomy, as recited in claim 29.

c.   Claim 12 and claims dependent therefrom

Claim 12 as amended recites a system that comprises a probe configured to travel inside a body to locate a feature of an imaged anatomy, and a processor communicatively coupled to the probe and a memory. The processor is operable to execute a plurality of program instructions stored in the memory, the plurality of program instructions representative of the steps of, *inter alia*, identifying a size and a shape of the first boundary defined by the series of points identified in the locating step, comparing the size and the shape of the first boundary defined by the series of points with a second boundary defined by an acquired image data of the feature of imaged anatomy, calculating if there is a match between the first boundary and the second boundary, and in response to calculating a match between the first and second boundaries, creating and registering a graphic representation of the location of the probe at each of the series of points for simultaneous illustration with the acquired image data of the feature of the imaged anatomy.

For reasons similar to those described with respect to claim 1, none of the references disclose a system that, inter alia, is operable to compare a first boundary of a feature that is defined by physical locations of the probe relative to a second boundary relative to a second boundary of the feature defined by image data; operable to calculate if a match, and operable to register the graphic representations of the probe at one or more of the physical locations for simultaneous illustration with the acquired image data of the feature. For at least this reason, claim 12 recites patentable subject matter that defines over the cited references. Accordingly, reconsideration and allowance of claim 12 is respectfully requested.

Claims 13, 16 and 30-31 depend from claim 12 and are believed allowable for the same reasons that claim 12 is believed allowable. Claims 13, 16 and 30-31 may include patentable subject matter in addition to that recited in claim 12. For example, none of the cited references disclose the system of claim 12, further comprising program instructions representative of the steps of comparing a size and a shape of a boundary of a second feature defined by an additional series of points located with the probe relative to the size and shape of the second feature defined by an acquired image data of the second feature; comparing a spatial relation of the second feature relative to the first feature both defined by the points physically located with probe relative to a spatial relation of the second feature relative to the first feature defined by the acquired image data of the first and second features; and calculating if there is a match of the first and second features and spatial relation therebetween as defined by the series of points located with the probe relative to the first and second features and spatial relation therebetween as defined by the imaged data, wherein the step of creating and registering the graphic representation of the probe located at one or more of the series of points for display relative to the acquired image data is performed if there is the match calculated according to the above step, as recited in claim 30. In another example, none of the cited references disclose the system of claim 12, further comprising program instructions representative of the steps of acquiring a first heart vector data registered to at least one of the locations of the series of points located with the probe; acquiring a second heart vector data registered to a location of the acquired image data illustrative of the first feature of the imaged anatomy; and registering the location of the first heart vector data relative to the second heart vector data so as to thereby register the representation of the probe at one or more of the series of points relative to the acquired image data of the first feature of the imaged anatomy, as recited in claim 31.
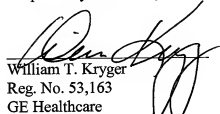
CONCLUSION

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the pending claims in the application is respectfully requested.

Applicant hereby requests a one-month extension of time needed for timely acceptance of papers submitted herewith. A fee of $930 is included with this communication, including the fee in request for the one-month extension of time of timely acceptance of this application, and an additional fee in request for continued examination (RCE) of this application. Applicant hereby authorizes charging any additional fees which may be required regarding this application or credit any overpayment to Deposit Account No. 070845.

The Examiner is invited to contact the undersigned at telephone number (262) 548-4654 if it is felt that a telephone interview would advance the prosecution of the application.

Respectfully submitted,

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